



## Polypropylene solutions for flexible applications

Co-creating the future  
for films

# Flexible packaging and its benefits




With the purpose of making people's lives better and taking into consideration the main challenges of the modern world, Braskem is highly committed on creating innovative and sustainable solutions through chemicals and plastics.

It is our belief that the flexible applications contribute positively to an easier and more sustainable daily life by providing:







We are developing the next generation of performance polypropylene that exploit recent advances in catalyst and process technology, combined with polymer science and engineering innovation.

## Accelerating innovation and speed to market

Multiple technologically integrated centers in the United States, Brazil and Germany employ more than 300 specialized professionals who collaborate with clients on joint product and applications development.

These state-of-the-art facilities feature:

- Pilot-scale equipment that replicates customer production environments for more true-to-life polymer testing.
- Blown and Cast Film equipments that create innovative solutions to meet customer needs
- Catalyst labs for developing experimental polymers with enhanced physical properties.
- On-site analytical labs that provide tools to understand performance requirement.

## Client-driven innovative focus

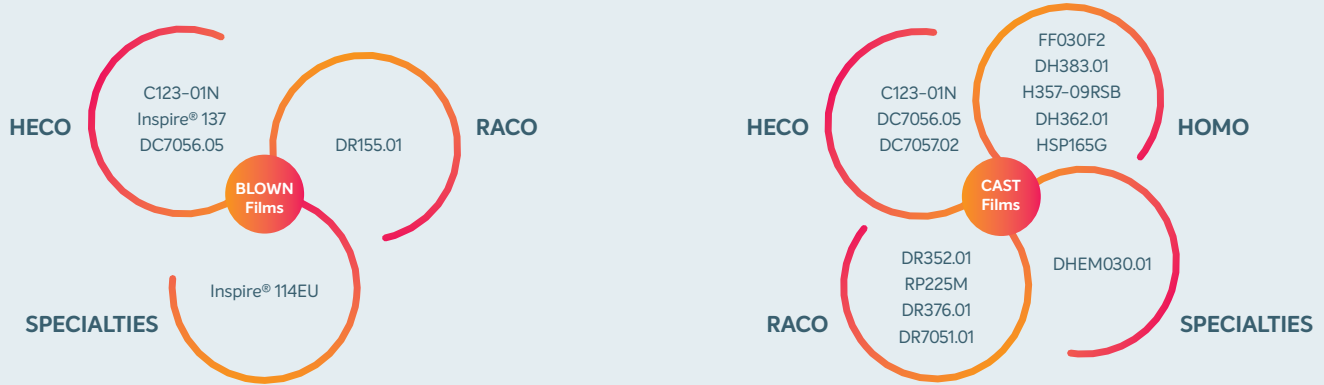
We understand the importance of a competitive and dependable supply of high quality products. Applications often require new levels of performance. Braskem has the capability to provide technical expertise and innovation that meets your product differentiation requirements.

## Reliable, responsive service and supply

We are focused on being responsive to the needs of our global clients with service levels and supply security unmatched by the competition. At the heart of this responsiveness is geographic diversity that provides reliable sourcing, with production facilities in North America, Germany, and Brazil.



# Next generation of polypropylene polymers for high level of performance



## Flexibles: Blown film, Cast film, BOPP film

| Typical Properties   | Melt Flow Rate (230°C/2.16kg)   | Flexural Modulus | Melting/Vicat Temperature | Controlled Rheology | Additives ** | CaSt |     |
|--|---|------------------|---------------------------|---------------------|--------------|------|-----|
| Units  | g/10min   | MPa              | °C                        |                     |              |      |     |
| HOMO   | FF030F2*  | 3.0              | 1450                      | -                   | yes          | -    | no  |
|  | Superior optical and mechanical properties, broad processing window - <b>BOPP application, metallized films.</b>  |                  |                           |                     |              |      |     |
|  | DH733.02  | 8.0              | 1900                      | -/155               | no           | -    | no  |
|  | Very high stiffness and superior heat resistance, sterilisable - <b>Food packaging, twist films, stationary films.</b>  |                  |                           |                     |              |      |     |
|  | DH383.01  | 9.5              | 1400                      | 163/155             | yes          | -    | no  |
|  | High stiffness and heat resistance, sterilisable - <b>Food packaging, metallized films, stationary films and general packaging.</b>   |                  |                           |                     |              |      |     |
|  | H357-09RSB  | 9.5              | 1400                      | 163/155             | yes          | S,AB | yes |
| High stiffness and heat resistance, sterilisable - <b>Food packaging, stationary films and general packaging.</b>                                      |   |                  |                           |                     |              |      |     |
| DH362.01   | 9.5   | 1400             | 163/154                   | yes                 | S            | yes  |     |
| High stiffness and heat resistance, sterilisable - <b>Food packaging, stationary films and general packaging.</b>                                      |   |                  |                           |                     |              |      |     |
| HSP165G  | 16.5  | 1500             | 164/155                   | yes                 | AGF          | yes  |     |
| High stiffness and heat resistance, sterilisable and easy flow - <b>Food packaging, stationary films and general packaging.</b>                        |   |                  |                           |                     |              |      |     |
| RACO   | DR155.01  | 1.8              | 900                       | 142/125             | no           | -    | yes |
|  | Superior optical properties, low level of gels and softness - <b>Multilayer structures, sealant and lamination films</b>  |                  |                           |                     |              |      |     |
|  | DR376.01*   | 7.0              | 551                       | 134/-               | no           | -    | no  |
|  | Exceptional edge flow and speed, catastrophic tear resistance, low temperature heat seal, good optical properties - <b>Food packaging, lamination films and stretch films</b>     |                  |                           |                     |              |      |     |
|  | DR352.01  | 8.0              | 700                       | 139/130             | yes          | -    | yes |
|  | Excellent optical properties and high toughness and sealing properties - <b>Food packaging, lamination films, textile packaging and stretch films.</b>                            |                  |                           |                     |              |      |     |
| RP225M*  | 8.0   | 900              | -/134                     | no                  | S, AB        | yes  |     |
| Excellent gloss, transparency and sealing properties - <b>General purpose, food and textile packaging.</b>   |   |                  |                           |                     |              |      |     |
| DR7051.01  | 10.0  | 1200             | 150/133                   | no                  | N, AS        | yes  |     |
| Excellent optical properties and high toughness and sealing properties - <b>Food packaging, lamination films, textile packaging and stretch films.</b> |   |                  |                           |                     |              |      |     |
| HECO   | Inspire 137   | 0.8              | 1000                      | 163/146             | no           | -    | no  |
|  | Excellent stiffness/toughness balance, melt strength and very low level of gels - <b>Stand up pouch film, multilayer structures, siliconised, technical and lamination films.</b> |                  |                           |                     |              |      |     |
|  | C123-01N  | 1.2              | 1350                      | 165/154             | no           | -    | yes |
|  | High stiffness and impact properties, retortable - <b>Non transparent films applications.</b>   |                  |                           |                     |              |      |     |
|  | DC7056.05   | 3.5              | 1050                      | 166/158             | no           | -    | yes |
| Booster for mechanical properties, low level of gels, retortable - <b>Lamination films, stretch films, stand up pouch films.</b>                       |   |                  |                           |                     |              |      |     |
| DC7057.02  | 8.5   | 1150             | 165/155                   | no                  | -            | yes  |     |
| Excellent stiffness/toughness balance and good mechanical resistance at low temperatures - <b>Lamination films.</b>                                    |   |                  |                           |                     |              |      |     |
| Specialty  | Inspire 114EU   | 0.5              | 1400                      | 167/155             | no           | -    | yes |
|  | Outstanding melt strength, high stiffness and impact resistance - <b>Foamed films, labels and tags.</b>   |                  |                           |                     |              |      |     |
| DHEM030.01   | 3.5   | 2200             | -/158                     | no                  | -            | no   |     |
| Very high stiffness, downgauging - <b>High stiff raffia, twist and label film.</b>   |   |                  |                           |                     |              |      |     |

\* Impact; \*\* AS: Antistatic; S: Slip; AB: Anti-block; AGF: Anti-gas-fading.



## Boosting blown film solutions with **polypropylene specialties**

Braskem's polypropylene designed for blown film application allow producers to enhance their current film formulations. This evolution aims to provide a greater balance of processability and performance, which adds versatility and flexibility. Benefits from the proven performance that helps our clients add value to a wide range of innovative downstream solutions include:

- Improved melt strength enabling down gauging
- Low gel level to guarantee superior film quality
- Balanced stiffness and impact properties
- Outstanding optical properties for the different application needs
- Resins suitable for food contact applications downstream formulation development

## Broad portfolio for **cast film applications**

Designed Homopolymers, Random and Heterophasic Copolymer grades that meet today's sophisticated cast film extrusion needs. Our products provide additional features for innovative designs:

- Good processing
- Excellent mechanical and optical properties
- High flexibility

# Europe

## Rotterdam, Netherlands

Headquarters  
Start-up year: 2017

## Schkopau, Leipzig Area

Capacity: 360 kT/yr  
Technology: Spheripol  
Start-up year: 1998

## Wesseling, Cologne Area

Capacity: 265 kT/yr  
Technology: Unipol  
Start-up year: 1991



Innovation & Technology Center  
Start-up year: 2016

## Braskem in numbers



### Warehouses Europe

Antwerp | Belgium  
Murcia | Spain  
Bologna | Italy  
Rotterdam | The Netherlands



**2** Industrial Units:  
Wesseling and  
Schkopau (Germany)

PRODUCTION  
CAPACITY OF

**625** <sup>KT/Y</sup>  
of **PP**



**297** Team Members



# Global presence



With a global vision of the future oriented towards people and sustainability, Braskem is committed to contributing to the value chain for strengthening the Circular Economy.

The petrochemical company's almost 8,000 team members dedicate themselves every day to improve people's lives through sustainable chemicals and plastics solutions.

Braskem has an innovative DNA and a comprehensive portfolio of plastic resins and chemical products for diverse segments, such as food packaging, construction, manufacturing, automotive, agribusiness, healthcare and hygiene, among others. With 40 industrial units in Brazil, the United States, Mexico and Germany, Braskem exports its products to clients in more than 100 countries.



**40** industrial units:  
28 plants in Brazil  
6 plants in the United States  
2 plants in Germany  
4 plants in Mexico

PRODUCTION  
OF OVER

**20**

MM TONS/YEAR



of thermoplastic  
resins & other  
chemicals products



**8,000** Members

